

**Notice of Allowability**

Application No.

09/823,437

Applicant(s)

PAN ET AL.

Examiner

Art Unit

X L Bautista

2179

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 8/23/04.
2. ☒ The allowed claim(s) is/are 2-26 and 28-40.
3. ☒ The drawings filed on 30 March 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

X. L. Bautista  
Primary Examiner  
Art Unit 2179

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Kevin L. Russell on February 15, 2005.

In the claims:

Claim 2, line 2:

“relay” has been changed to -replay--.

Claim 9, change at line 6:

replay of said event[.];

Claim 9, add after line 6:

(c) summarizing said video including a plurality of said slow motion replays.

Claim 13, change at line 5:

Identifying slow motion replay segments in other video[.];

Claim 13, add after line 5:

(c) summarizing said video including a plurality of said slow motion replays.

Claim 16, change at line 5:

being said slow motion replay of said event[[.]];

Claim 16, add after line 5:

(d) summarizing said video including a plurality of said slow motion replays.

Claim 20, change at line 11:

segment, said first effect, said second effect, and said slow motion replay[[.]];

Claim 20, add after line 11:

(e) summarizing said video including a plurality of said slow motion replays.

Claim 23, change at line 14:

effect, said first and second plurality of still fields[[.]];

Claim 23, add after line 14:

(g) summarizing said video including a plurality of said slow motion replays.

Claim 27, is being cancelled.

Claim 26, change at line 4:

characterizing at least another of said slow motion segments as not a  
commercial[[.]];

Claim 26, add after line 4:

(c) summarizing said video by including said plurality of slow motion replay  
segments in a summarization, wherein said summarization is less than said video.

Claim 38, change at line 6:

candidate slow motion segment[[.]];

Claim 38, add after line 6:

(c) summarizing said video including a plurality of said slow motion  
segments.

Claim 40, change at line 12:

(v) a post processor that filters the results of steps (iii) and (iv)[[.]];i

Claim 40, add after line 12:

(c) summarizing said video including a plurality of said slow motion segments.

*Reasons for Allowability*

2. Claims 2-26 and 27-40 are allowed.
3. The following is an examiner's statement of reasons for allowance:

Independent claims 2, 9, 13, 20, 23, 26, 30, 38 and 40 have been carefully considered. Prior art of record fails to teach the combination of claimed elements including a method of summarizing video, having an event, by detecting slow motion replay segments; and summarizing the video including the slow motion replay segments in a summarization, which is less than the video; determining the boundary of the slow motion replay of the event by determining statistical measure of different portion of the video including the event and the slow motion replay; providing video data including the event and the slow motion replay of the event to a statistical model, and training the statistical model based upon the video to improve the probability of identifying slow motion replay segments in other videos; identifying the boundaries of a candidate slow motion segment of a video by using a non-Hidden Markov technique to determine a frame candidate slow motion segment, and using Hidden Markov Model technique to identify the boundaries of the candidate slow motion segment.

*Sezan et al* (US 6,236,395 B1) discloses a system for managing audiovisual information, browsing, filtering, searching, archiving, and personalization. *Sezan*

teaches the system may use a combination of description schemes to enhance its ability to search, filter, and browse audiovisual information in a personalized and effective manner. Selection of a particular program analysis technique depends on the amount of readily available data and the user preferences. For example, if a user prefers to watch a 5 minute video highlight of a particular program, such as a basketball game, the analysis module may invoke a knowledge based system to determine the highlights that form the best 5 minute summary; the knowledge system may invoke a commercial filter to remove commercials and a slow motion detector to assist creating the video summary. Sezan fails to teach that the system detects slow motion segments of a video sequence for the purpose of summarizing the video and including the slow motion replay segments in the summarization, which is less than the video, and not for just classifying the video content as a commercial or non-commercial, or sports and non-sports. Sezan does not teach precise identification of the boundaries of slow motion replay segments.

*Yeo et al* (US 6,219,837 B1) discloses a system for providing accurate information to users of the contents of the current programming on a particular channel and to offer a quick overview of the video program to offer summary frames to allow the viewer to determine what program is playing. Yeo fails to teach that the system detects slow motion segments of a video sequence for the purpose of

summarizing the video, and including the slow motion replay segments in the summarization, which is less than the video.

*Foote et al* (US 6,774,917 B1) discloses a method for interactively processing video for the automatically locating specific content. Foote teaches a method for interactively selecting a scene from a video and finding similar scenes in the video, and finding time intervals of video similar to that selected by a user. Foote teaches that the system can be used to retrieve similar images from one or more still images, and the similarity measures are based on statistical likelihood of a reduced transform coefficients. Foote fails to teach that the system detects slow motion segments of a video sequence for the purpose of summarizing the video, and including the slow motion replay segments in the summarization, which is less than the video.

### *Conclusion*

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

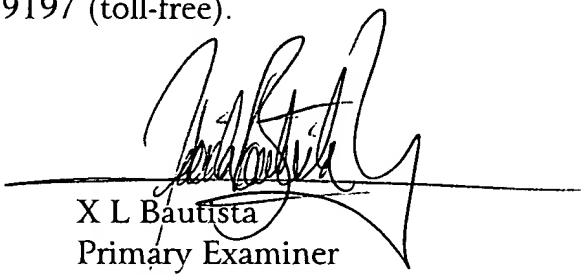
Any inquiry concerning this communication or earlier communications from the examiner should be directed to X L Bautista whose telephone number is (571)



272-4132. The examiner can normally be reached on Monday-Thursday 8:00AM-6:00PM.

5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on (7571) 272-4136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



X L Bautista  
Primary Examiner  
Art Unit 2179